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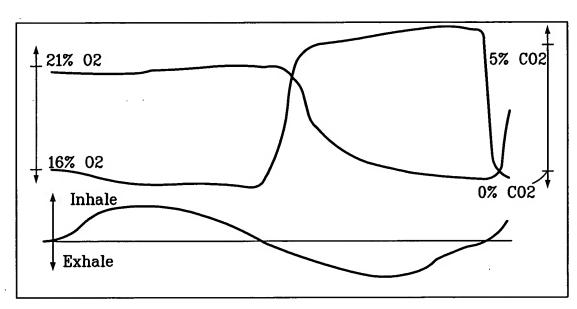
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Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 1 of 11

1/11

FIG. 1



Time

Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 2 of 11

FIG. 2

	Athletic Volunteer									
	Resting Condition				卜					
									٦	
	Clinical		Measurement		Com	puted Usin	g Inve	nt	ion	
			Water		Γ	Dry				
			Saturated	R		Equivalent	Difference	RET		RET-R
		Inspired	End Tidal			End Tidal				error
Run 1	Oxygen	159.6	103	0.67		109.79	49.81	0.71		0.04
	CO2	0	33			35.18	35.18			
Run 2	Oxygen	159.6	94	0.67		100.20	59.40	0.65	Ĭ	-0.02
	CO2	0	36			38.37	38.37			
									٦	
Run 3	Oxygen	159.6	101	0.71		107.66	51.94	0.70		-0.01
	CO2	0	34			36.24	36.24			
									٦	
Run 4	Oxygen	159.6	112	0.80		119.38	40.22	0.80		-0.00
	CO2	0	30			31.98	31.98			
				=				=	Ĩ	=
			Average	0.71			Average	0.71		-0.00

Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 3 of 11

3/11

FIG. 3

	Normal N									
	Resting (
	Clinical Measurer				Computed Using Invention					
			Water Saturated	R		Dry Equivalent	Difference	RET		RET-R
		Inspired	End Tidal			End Tidal				error
Run 1	Oxygen	159.6	112	0.94		119.38	40.22	0.93		-0.01
	CO2	0	35			37.31	37.31			
Run 2	Oxygen	159.6	105	0.81		111.92	47.68	0.85		0.04
	CO2	0	38			40.50	40.50			
Run 3	Oxygen	159.6	105	0.81		111.92	47.68	0.83		0.02
	CO2	0	37			39.44	39.44			
Run 4	Oxygen	159.6	103	0.76		109.79	49.81	0.81		0.05
	CO2	0	38			40.50	40.50			
Run 5	Oxygen	159.6	102	0.76		108.72	50.88	0.80		0.04
	CO2	0	38			40.50	40.50			
Run 6	Oxygen	159.6	106	0.88		112.99	46.61	0.85		-0.03
	CO2	0	37			39.44	39.44			
				=				=		=
			Average	0.83			Average	0.84		0.01

Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 4 of 11

	Normal N								
	2 Min aft	er startin	g Exercise						
	Heart Ra								
	Work out								
		Clinica	l Measuren	nent		Com	puted Using	g Invent	ion
			Water Saturated	R		Dry Equivalent	Difference	RET	RET-R
		Inspired	End Tidal		N	End Tidal			error
Run 1	Oxygen	159.6	101	0.84		107.66	51.94	0.86	0.02
	CO2	0	42			44.77	44.77		
Run 2	Oxygen	159.6	101	0.87		107.66	51.94	0.84	-0.03
	CO2	0	41			43.70	43.70		
Run 3	Oxygen	159.6	102	0.88		108.72	50.88	0.88	-0.00
	CO2	0	42			44.77	44.77		
Run 4	Oxygen	159.6	100	0.90		106.59	53.01	0.88	-0.02
	CO2	0	44			46.90	46.90		
Run 5	Oxygen	159.6	103	0.92		109.79	49.81	0.92	0.00
	CO2	0	43			45.83	45.83		
				=				_ =	=
			Average	0.88			Average	0.88	-0.00

Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 5 of 11

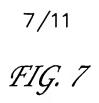
	Normal M									
	5 Min aft	er starting	g Exercise							
	Heart Ra									
	Work out									
	Clinical Measuren					Com	puted Using	g Invent	ic	n
			Water			Dry				
			Saturated	R		Equivalent	Difference	RET		RET-R
		Inspired	End Tidal			End Tidal				error
Run 1	Oxygen	159.6	107	1.02		114.05	45.55	1.01		-0.01
	CO2	0	43			45.83	45.83			
Run 2	Oxygen	159.6	106	1.06		112.99	46.61	0.98		-0.08
	CO2	0	43			45.83	45.83			
Run 3	Oxygen	159.6	107	1.03		114.05	45.55	1.01		-0.02
	CO2	0	43			45.83	45.83			
					Γ					
Run 4	Oxygen	159.6	108	1.10		115.12	44.48	1.03		-0.07
	CO2	0	43			45.83	45.83			
Run 5	Oxygen	159.6	109	1.07		116.19	43.41	1.03		-0.04
	CO2	0	42			44.77	44.77		Ī	
				=				=		=
			Average	1.06			Average	1.01		-0.04

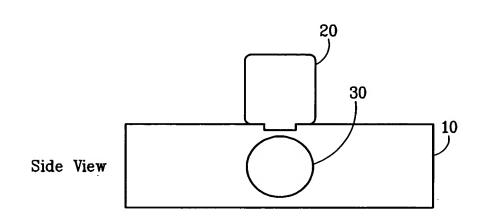
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App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 6 of 11

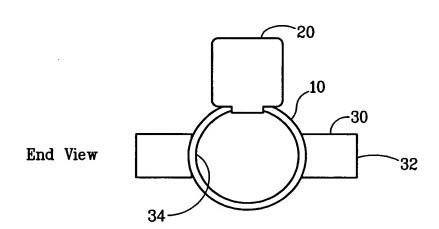
6/11 FIG. 6

	Normal N	A on		<u> </u>	Г				Г	
					L					
	9 Min after starting Exercise				L				Ļ	
	Heart Ra		L				L			
	Work ou		L							
		Clinica	l Measuren	nent		Com	puted Using	g Inven	ti	on
			Water		Г	Dry			Γ	
			Saturated	R		Equivalent	Difference	RET		RET-R
		Inspired	End Tidal			End Tidal				error
Run 1	Oxygen	159.6	112	1.18		119.38	40.22	1.11		-0.07
	CO2	0	42			44.77	44.77			
			·							
Run 2	Oxygen	159.6	112	1.21		119.38	40.22	1.11		-0.10
	CO2	0	42			44.77	44.77			
Run 3	Oxygen	159.6	115	1.28		122.58	37.02	1.15		-0.13
	CO2	0	40			42.64	42.64			
Run 4	Oxygen	159.6	119	1.34	L	126.84	32.76	1.20		-0.14
	CO2	0	37			39.44	39.44			
	<u> </u>				L					
Run 5	Oxygen	159.6	118	1.36		125.78	33.82	1.17		-0.19
	CO2	0	37			39.44	39.44			
				=				=		=
			Average	1.27			Average	1.15		-0.12

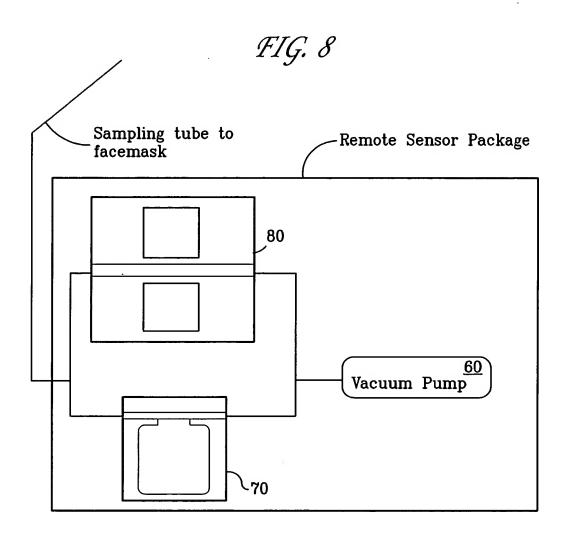
Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 7 of 11







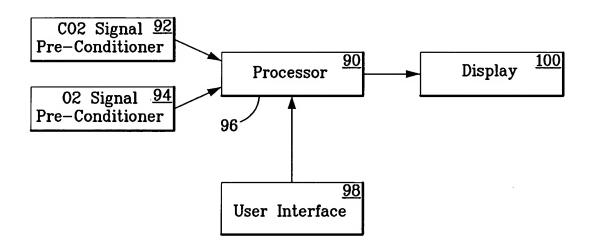
Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 8 of 11



Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
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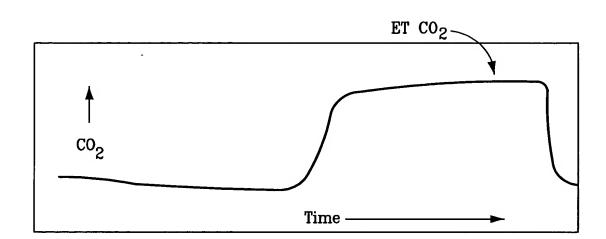
Sheet 9 of 11

FIG. 9



Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
Title: Method and Apparatus for Estimation of Resting Respiratory Quotient
Inventors: James R. Braig
Attorney: Michael P. Dunnam
Sheet 10 of 11

FIG. 10



Docket No.: BRAG-0002 Confirmation No.: 8654
App No.: 10/718,075. Filed: November 20, 2003
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Inventors: James R. Braig
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Sheet 11 of 11

FIG. 11

